

## APPENDIX

FOMC NOTES - PRF  
MAY 21, 1996

Mr. Chairman:

Since your last meeting, forward interest rates have shifted to imply somewhat greater expectations for a firming in Japanese and U.S. monetary policies in the coming months. Despite the Bundesbank's 50 basis point reduction in official rates in mid-April, forward mark interest rates are now back at the same level they were eight weeks ago, continuing to suggest the possibility of a further reduction in the repo rate.

All together, these forward rates reflect the perceived growth scenarios of expanding Japanese and U.S. economies and of little or no growth in Germany. While it is not always so tidy, the exchange markets have also reflected this outlook, with the mark weakening against both the yen and the dollar.

Looking forward to the rest of the year, the most obvious risk -- in the sense of what is not now priced in -- is the risk that the Japanese and U.S. economies might not be as strong as recent data have suggested and that the German economy might be stronger. Were this to occur, the mark would be likely to strengthen sharply against the dollar, the yen and other European currencies.

At present, however, the markets reflect a decidedly negative sentiment toward Germany, especially compared to the U.S.

Since the start of this year, the 2-year-to-10-year spread in German government bonds has increased from around 220 to 260 basis points, while the comparable 2-to-10 year spread here has increased from 40 to 60 basis points. At the same time, the differential between 10-year German and U.S. rates has shifted from 30 basis points in favor of Germany to 30 basis points in favor of the U.S. Also since the start of the year, the mark has declined 6 percent against the dollar.

Dollar-yen has oscillated over the period, following the shifts in the market's perception of the imminence of a tightening in policy by the Bank of Japan; but overall, dollar-yen is little changed from the time of your last meeting.

Throughout April, near-term, forward, yen interest rates were consistently rising as the market responded to a constant drumbeat of warnings from Bank of Japan officials that rates would be raised sooner rather than later. From early April to early May, dollar-yen fell from 108 and a half to 104 and a half. More recently, dollar-yen bounced back to trade around 107 after the market received the very clear impression from BoJ officials that a rate hike was not so imminent.

In the Treasury market, yields on the 30-year bond backed up above 7 percent for a few days in early May, following the release of first-quarter GDP data and as the market confronted new supply from the Treasury's auctions. The market traded somewhat anxiously until the release of the PPI and CPI and until the new supply was distributed. Although yields are below their recent peaks, the modest decline still encompasses the expectation that the Committee is likely to raise rates by the end of this year.

Equity prices regained their footing, and continued marching higher, following the relatively benign inflation data and the modest decline in bond yields.

In domestic operations, we faced fairly large needs to add reserves. Although demand for currency was less strong than anticipated, Treasury balances far exceeded expectations due to higher than forecast individual tax returns in April.

The Desk continues to respond to the skew in demand for reserves toward the end of each maintenance period. In the first intra-meeting maintenance period demand for reserves seemed quite evenly distributed. Since then, however, demand for reserves has again been heavily skewed toward the last two days of each maintenance period.

Early in the intermeeting period the Desk purchased 3.5 billion dollars of Treasury securities for the Account in three separate operations over two days.

Mr. Chairman, we had no foreign exchange intervention operations during the period. I will need the Committee's ratification of our domestic operations. I would be happy to answer any questions.

E.M.Truman  
May 21, 1996

FOMC Presentation -- International Developments

I thought it might be useful to offer a few observations with regard to the external sector of the U.S. economy by way of introduction to Mike Prell's briefing on the economy as a whole.

First, the Commerce Department released on Friday preliminary data for trade in goods and services in March. These data helped to fill out the picture for the first quarter that has evolved from releases since your last meeting. They were broadly in line with what we had assumed in the Greenbook forecast; the downward revision in the deficit for February roughly offset a slightly higher-than-expected deficit in March.

These data would cause us to revise up slightly our estimate of real net exports in Q1 by about \$2-1/2 billion. We now estimate that the growth of real exports of goods and services in the quarter was about 5 percent at an annual rate, down slightly from the 6-1/2 percent recorded over the four quarters of 1995, but still faster than growth in the U.S. economy as a whole. Real imports rose at more than a 10 percent annual rate during the quarter, up sharply from the pace of last year. In our projections, we have anticipated that the growth of real exports of goods and services should pick up somewhat as activity accelerates abroad; however, we are now forecasting that imports will expand more rapidly and that on balance the external sector will subtract a couple of tenths from growth for the balance of the projection period.

Second, with respect to growth abroad, on average our outlook is essentially unchanged from that presented in the past several Greenbooks.

Recent developments in Japan are consistent with growth this year of around 3 percent; however, we expect the expansion to slow next year with the negative influence of a tighter fiscal policy and a somewhat less accommodative monetary policy outweighing the positive stimulus to Japanese net exports from the weakened yen.

In Europe, we think there was a small pickup in growth on average in the first quarter in part due to a bounceback in economic activity in France from the strike-depressed decline in the fourth quarter. In Germany, real GDP appears to have extended its decline although the steepness was magnified by the effects of the harsh winter on the construction industry. In general, we continue to believe that the positive influence of easier monetary policies and weaker exchange rates will outweigh the effects of continuing fiscal contraction and produce a modest acceleration of real GDP in Europe in the second half of this year. Although we do not think that budget deficits next year in either Germany or France will meet the Maastricht criteria strictly defined, our expectation is that those two countries will lead a small band into full European Monetary Union on January 1, 1999.

In North America, we see encouraging signs of a rise in economic activity in Canada in recent employment trends and the pickup in retail sales. Moreover, the data on Mexican real GDP in the first quarter of this year that were released last Friday suggested an expansion at a seasonally adjusted quarterly rate of more than 2 percent. The report was somewhat better than we had expected but was broadly consistent with recent data on industrial production, unemployment, retail sales and imports. These data lend support to our forecast of growth over the four quarters of 1996 around 4-1/2 percent.

Third, one change in our forecast involves the foreign exchange value of the dollar. In terms of other G-10 currencies, the weighted-average dollar has appreciated by almost 10 percent from its low a year ago. In our Greenbook forecasts, we never projected that the dollar would stay as low as it was during most of the second and third quarters of last year. However, since the December Greenbook, we have moved up our projection for the dollar about 5 percent. The dollar's appreciation so far this year can be interpreted largely as an endogenous response to the relative strengthening of the outlook for the U.S. economy over this period. Along with the rise in long-term interest rates, the dollar's appreciation should help to dampen the pace of expansion of U.S. economic activity. Compared with the December Greenbook, we estimate that the effect of the stronger dollar

that we are now projecting by itself will hold back the growth of real GDP by a bit more than a quarter of a percentage point this year and a bit less next year.

One question is whether, contrary to our projection, the dollar will continue to appreciate. A factor supporting this view in the near term is the observation that since December the rise in U.S. interest rates on 10-year government bonds relative to foreign rates on average has been about 90 basis points. According to our econometric equations such a rise in general would be expected to produce an appreciation of the dollar somewhat larger than what has actually occurred. Cutting against further dollar appreciation is the fact that the assumptions about U.S. interest rates underlying the Greenbook forecast, contrary to market expectations, do not involve increases in short-term rates later this year. In addition, the staff's outlook for the U.S. external sector is more pessimistic than that found in many private forecasts; if we are right, the realization of our forecast could begin to weigh on the dollar.

In the longer term, the exchange value of the dollar is likely to be affected by the transition to the single European currency -- the euro -- in stage III of EMU on January 1, 1999. The dollar could well come under upward pressure because euro-denominated assets are not likely to be perceived, at least initially, as particularly attractive. A number of arguments support this view.

First is the inevitable controversies about the legal status of euro-denominated assets and the conversion into euros of assets now denominated in Ecu or national currencies.

Second, according to current plans, the euro in currency form will not circulate for use in retail transactions until 2002; that is three years after the constituent currencies are locked together. In the interim, possible problems in the acceptance at par of national currencies by economic agents in the different countries will tend to undermine confidence in the project as a whole. However, it also is possible that the private sector will successfully promote currency substitutes, or the introduction of the euro currency may be accelerated.

Third, it is generally expected that the European Central Bank will conduct open market operations largely in the form of repo transactions; the actual transactions will not be centralized, instead they will be dispersed to the various national centers. Such a modus operandi is likely to hold back the development of a liquid wholesale market in euro instruments.

Fourth, the performance of the central bank as a replacement inflation fighter for the Bundesbank will be questioned even if the new institution initially is inclined to be tighter than the Bundesbank would have been in similar circumstances, as is likely to be the case.

My impression is that these factors are beginning to become apparent to the market along with an increase in speculation about the rates at which the national currencies will be locked together in the euro. They may already be giving a boost to the dollar through an increase in the risk premia on the assets issued by the governments likely to be part of the move to full EMU.

Mike Prell will complete our presentation.

Michael J. Prell  
May 21, 1996

FOMC BRIEFING

For some time now, we've been warning of inflationary risks in the outlook. But one needed to apply a magnifying glass to the Greenbook numbers to discern signs of those risks. With the latest forecast, though, that's no longer true: Even in our baseline forecast, which leaves out a minimum wage hike and assumes decent crops, we're calling for overall CPI inflation to run perceptibly above 3 percent this year and next. With your indulgence, I'll take just a few minutes to review our argument.

First, there's no sign that economic growth is about to slow to the point that resource utilization rates will fall significantly. Rather, our forecast is that unemployment and plant use will remain roughly where they were last month. And, to reach that conclusion, rather than that markets will tighten further, we've had to make several assumptions: (1) That any boost to consumer demand from stock market gains will be offset by such damping influences as debt burdens or higher targets for retirement savings. (2) That housing starts will drop off sharply in the next few months in response to the backup in mortgage rates. (3) That high-tech investment won't keep the outlays for business equipment chugging along at anything remotely approaching the first-quarter rate. (4) That growth abroad will pick up only moderately and that the appreciation of the dollar since last summer will help produce a small deterioration in net exports. And (5), that businesses will keep a tight rein on inventories, despite the vulnerabilities of just-in-time practices that have been apparent in recent months. We believe all those assumptions are appropriate,



but they generally would seem to involve risks on the upside at least as great as those on the downside.

The second point in our argument is that current resource utilization levels carry with them the likelihood that inflation will tend to creep up, even without any assist from adverse exogenous shocks. I can't point to any smoking guns in this regard. Indeed, the unemployment rate has averaged 5.6 percent since the fall of 1994, virtually the same as what we're forecasting, and yet there are to date no definitive signs of an upturn in compensation or price increases. Clearly, the safer claim to make at this juncture would be that nothing in the recent experience suggests that there's room for a further decline in the unemployment rate without risking a flare-up of inflation. But even that cautious observation has relevance for policy if you think there's much chance that growth will significantly outstrip our expectations.

The third point in our argument is that the best bet is that we won't enjoy a period free of inflationary shocks. Let me emphasize that we're dealing with a lot of guesswork here, but we have tried not to be unduly pessimistic. In the case of energy prices, for example, we've aligned ourselves with the futures market, where the backwardation of prices has been signaling relief from the recent pressures. Though the early May Michigan survey suggested that the spike in gasoline prices has had some effect on consumer expectations, we expect that to reverse quickly, with little lingering effect on inflation. Yesterday's perverse market reaction aside, we view the earlier arrival of the Iraqi oil as reducing the risk that energy prices will prove a persistent problem.

We've also aligned ourselves in broad terms with the futures market in anticipating that grain prices will ease with the fall harvest. Needless to say, the uncertainties are enormous in this area, with so much riding on the whims of Mother Nature. However, given rising world food demand and current low inventories, we think it will take healthy crops here and abroad over the next couple of years to avoid a deterioration in retail food price trends relative to what we've been enjoying for a while. Were there to be further crop failures like that which occurred with winter wheat, the implications for food prices could be quite adverse. As it is, we believe the odds are high that food prices will be adding noticeably to CPI inflation over coming quarters directly and also indirectly, through wage and expectational channels.

The run-up in grain prices might be said to be partly a self-inflicted wound, owing to the decision to set aside land from planting last year, but there are other inflationary shocks possibly in the offing that are more clearly deserving of that designation. We discussed the minimum wage hike in the Greenbook and we mentioned in passing the legislative proposals for changes in private medical insurance. Perhaps, in this election year, one might be concerned that there could be still other political efforts to address economic insecurities in ways that don't directly affect the budget but that do add to production costs. There may be some good news lurking out there as well, but it is certainly arguable that the balance of potential shocks today is tilted in the unhelpful direction in terms of the prospects for containing inflation without taking some demand pressures out of the economy.

The final, and clearly important, point in our assessment of the outlook is our judgment that, absent a tightening of policy, financial conditions aren't likely to put much of a crimp in demand growth over the next year and a half. Don will be saying more on this later, so I'll simply reiterate the bottom-line judgment that we noted in the Greenbook. That is, despite the backup in bond yields, we don't see the prevailing financial environment as an obstacle to continued solid growth.

May 21, 1996

FOMC Briefing  
Donald L. Kohn

Mike has detailed the reasons for the view in the staff forecast that the risks have shifted toward greater inflation. I'll discuss possible policy responses, in the context of an assessment of current financial conditions. With regard to the latter, I've had distributed a set of charts drawn from the Financial Indicators package, but updated through yesterday and incorporating the new Philadelphia Fed inflation expectations survey.

The strength in aggregate demand in the first part of 1996 suggests that financial conditions in 1995 were not as restrictive as had been thought, and may have been more accommodative than would be consistent with containing inflation. Conditions seem to have tightened in recent months, however; reacting primarily to the more robust economy, nominal long-term interest rates have risen to where they were in the spring of 1995, and the dollar has moved higher. Real interest rates, of course, are difficult to measure, but undoubtedly they also have increased this year, though probably not as much as nominal rates. The question is whether real interest rates have settled at levels roughly consistent with at least forestalling any sustained pickup in inflation.

As you can see from chart 2, compared to the past 15 years, real long-term rates aren't unusually high. They have risen appreciably since 1993, when, under the impetus of a highly stimulative monetary policy, they were at unsustainably low levels, but they are still in the lower portion of their range since 1979. Of course, that was a period of relatively high real rates and disinflation. To take account of that, the next chart relates the level of the real long-term rate along the horizontal axis to the change in inflation one year later along the vertical. As you can see by the vertical dashed line, judging by the average experience in the period since the late 1970s, long-term rates now are in the neighborhood of their natural level--that is, they are about in line with the levels that in the past have been consistent with no change in inflation.

That doesn't mean that there is no risk of rising inflation, however. For one, the relationship between real rates and economic activity obviously is loose, and some of the channels that might ordinarily be damping aggregate demand as interest rates rose have not been fully operational in 1996. In particular, the stock market, shown in the next chart, has continued to climb--boosting wealth and holding down the cost of capital. And credit supply conditions remain accommodative; yield spreads in securities markets are quite narrow, and banks have continued to ease the terms of business lending while tightening standards

marginally for consumer loans. The dollar exchange rate, shown in the following chart, on the other hand, in both real and nominal terms, has risen substantially over the last year, which, as Ted noted, should hold down net exports.

In addition, the yield curve itself, the next chart, seems to embody some expectations of a rise in rates, albeit probably not a very large one. As you can see, the curve is perhaps slightly steeper than normal, depending on the time period you look at. Similarly, readings from Eurodollar future markets suggest that the current level of long-term rates has some upward movement in short-term rates built into it. To be sure, the market does not expect the Committee to raise rates immediately, and neither the yield curve nor the staff forecast would seem to indicate that a major rate adjustment of say, more than a percentage point, is likely to be needed to contain inflation, absent a minimum wage hike. Nonetheless, they do suggest that sustainable economic growth is more likely to be associated with a tightening than an easing in policy at some point, even more so if the Committee's longer-term objective is to reduce, rather than simply contain, inflation.

If the Committee shared this assessment, there are a number of reasons why it might want to tighten sooner rather than later. One would be concern about a pickup in expected inflation. In financial markets, reactions to

movements in food and energy prices and to broad inflation data suggest that inflation prospects are getting attention, and some of the market response to strength in economic activity probably represents a recognition that such a development raises inflation risks. On "Main Street", the Michigan survey does show an uptick in inflation expectations, both near- and longer-term. And somewhere in between Main Street and Wall Street, the professional economists surveyed by the Philadelphia Federal Reserve have revised up their expectations for inflation over the near term, though not by much and not for the long run, where they remain at 3 percent.

If it were to persist, a rise in expected inflation would have several consequences. First, it effectively eases the stance of monetary policy by reducing real short-term rates. Second, an increase in inflation expectations tends to get built into inflation itself in part as businesses and workers attempt to protect themselves against declines in real earnings. These were the points made in the bluebook in the discussion of policy responses to supply shocks. Shocks that are not quickly reversed can become embedded in inflation expectations and, hence, in the inflation rate on a persistent basis, requiring strong policy action to return to baseline inflation.

Allowing real rates to erode through policy inaction is not necessarily undesirable; it would have to be

considered in the context of all information bearing on financial conditions and the state of aggregate demand. But it might seem especially risky now when aggregate demand already has been stronger than expected, and the economy is operating at or beyond estimates of its potential. Altogether, developments on both the supply and demand sides of the economy might be seen as arguing that the risks of greater inflation in the future had risen, and that consequently the stance for monetary policy ought to be tightened at this time or in the near future--especially if the Committee wanted to be reasonably sure that inflation would be capped near 3 percent in the current expansion, and to raise the odds on inflation moving lower over time.

A turnaround in policy, from easing at the end of January to tightening in May or shortly thereafter, would be fairly quick, but certainly not without precedent in historical episodes. To be sure, markets would be surprised and rates would back up across the yield curve. But a sharp response at the long end similar to that in the early months of 1994 seems unlikely. Markets could well see such an action as a small adjustment in a fundamentally sound overall situation--analogous in intent to recent easings--rather than the precursor of an extended period of tightening. In this case, the sell-off in the stock market might be more limited.



But there is a case for waiting as well. Although risks and expectations have shifted in the last several months, the odds on greater inflation may not be so high as to dictate an immediate tightening of policy. In effect the Committee may not share the staff's assessment or feel that little would be lost by looking for confirmation of a deteriorating price picture, especially when a significant portion of the run-up in inflation is a function of supply shocks, which could reverse. Inflation expectations could well moderate as fuel and food prices stabilize and retrace some of their run-up. Readings on core inflation remain favorable, and this development along with the drop in oil prices seem already to have calmed inflation concerns in credit markets and damped expectations of a near-term policy tightening. The early signs of pressures on resources that were so evident in late 1994 and early 1995, such as increases in industrial commodity and intermediate materials prices, deteriorating vendor performance, and rising overtime, are not yet evident. Finally, broad money growth has slowed substantially in April and May and viewed from the end of last year now seems on a track more consistent with moderate expansion in nominal spending.

In these circumstances, the Committee may feel that waiting for more concrete indications that inflation pressures were emerging would not compromise its inflation objectives, recognizing that in adopting such a strategy it

risks having ultimately to raise nominal rates by more than if it had moved in advance. Moreover, even if inflation turns out to be higher than foreseen, the intermediate-term deterioration is not apt to be very substantial unless output is much stronger than expected or all the adverse supply shocks come to pass. In a situation in which large funds rate adjustments may not be called for, the recent backup in bond rates and rise in the dollar will help restrain demand for a while. At some point, though, if inflation pressures really were intensifying, the Committee would need, at a minimum, to validate the expected rise in the funds rate that seems to be built into the current configuration of asset prices.

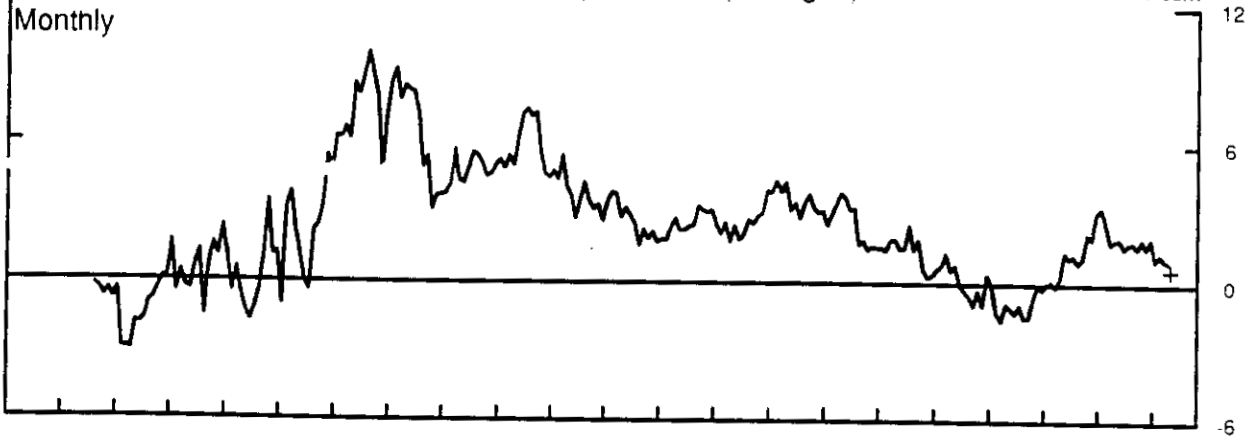
As a final point, I've referred several times to your policy choices in the context of the Committee's long-run objectives. The Committee broached this subject in February, and the July meeting will, once again, provide a natural occasion to talk about those objectives and their implications. You won't have a Mack bill, or probably even hearings on this bill, to help frame your discussion. One possible alternative method you could consider is submitting your expectations of inflation and output not only for 1996 and 1997, as you ordinarily would at this time, but for 1998 as well. I would expect that what you sent in for 1998 would be interpreted as goals--that is what you would be aiming for based on your own view of optimal policy--not

just your prediction based on what you think your colleagues on the FOMC might do. Such goals need not be for publication (at least before five years have elapsed), but rather could serve as a way to surface the types of issues that might arise if you wanted, or were required, to enunciate longer-term targets. Among other benefits, such an exercise might be helpful to the Chairman if he is called to testify on the Mack bill--especially if it illuminates the problems that could be associated with giving a timetable for reaching price stability, as the bill calls for. Mr. Chairman, it would be useful to have the Committee's views on this suggestion at this time, so that we could include it, or whatever variant the Committee desired, in our requests for forecasts before the July meeting.

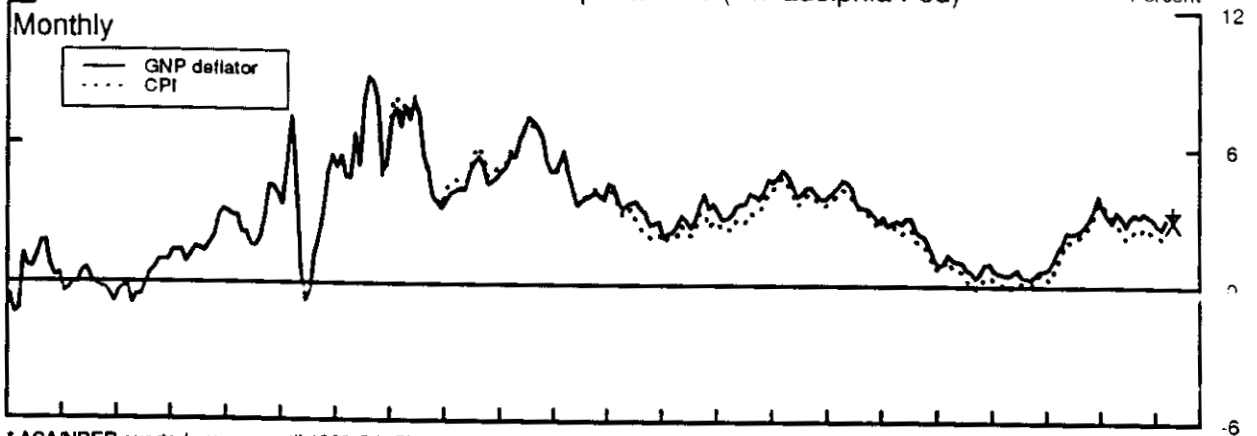
Chart 1

# One-Year Real Interest Rates

One-Year T-Bill Minus One-Year Inflation Expectations (Michigan)

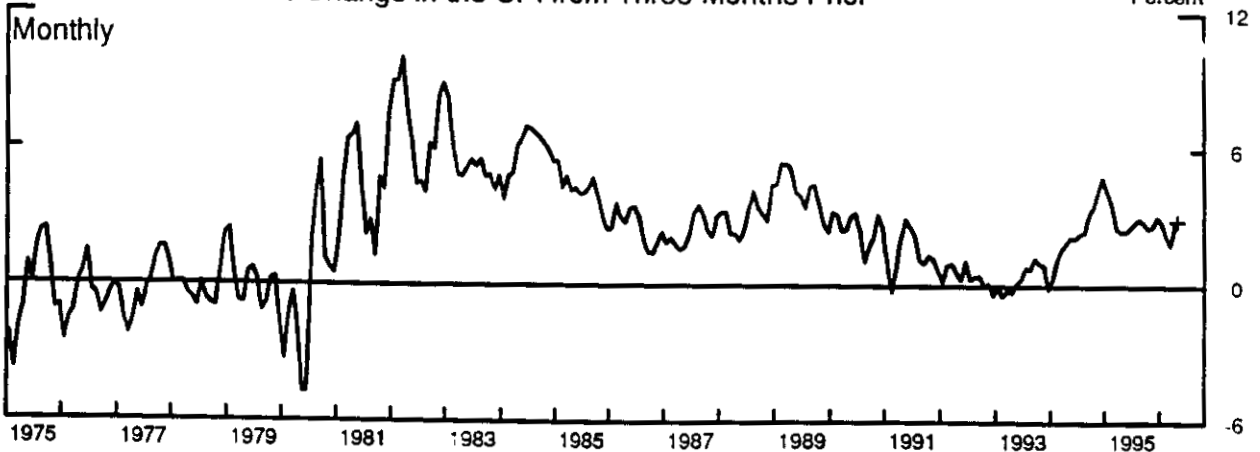


One-Year T-Bill Minus One-Year Inflation Expectations (Philadelphia Fed)\*



\* ASA/NBER quarterly survey until 1990 Q1; Philadelphia Federal Reserve Bank survey thereafter. Monthly T-bill rates less most recent quarterly inflation expectation.

One-Year T-Bill Minus Change in the CPI from Three Months Prior\*\*



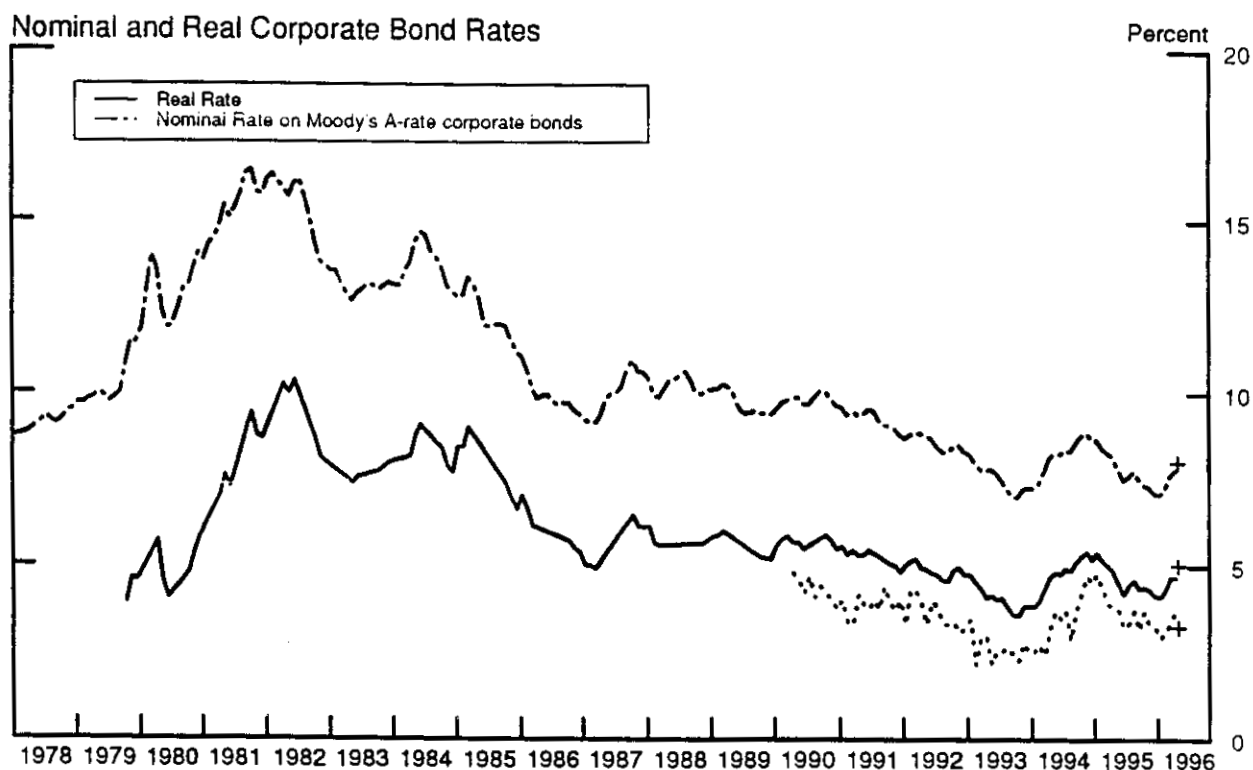
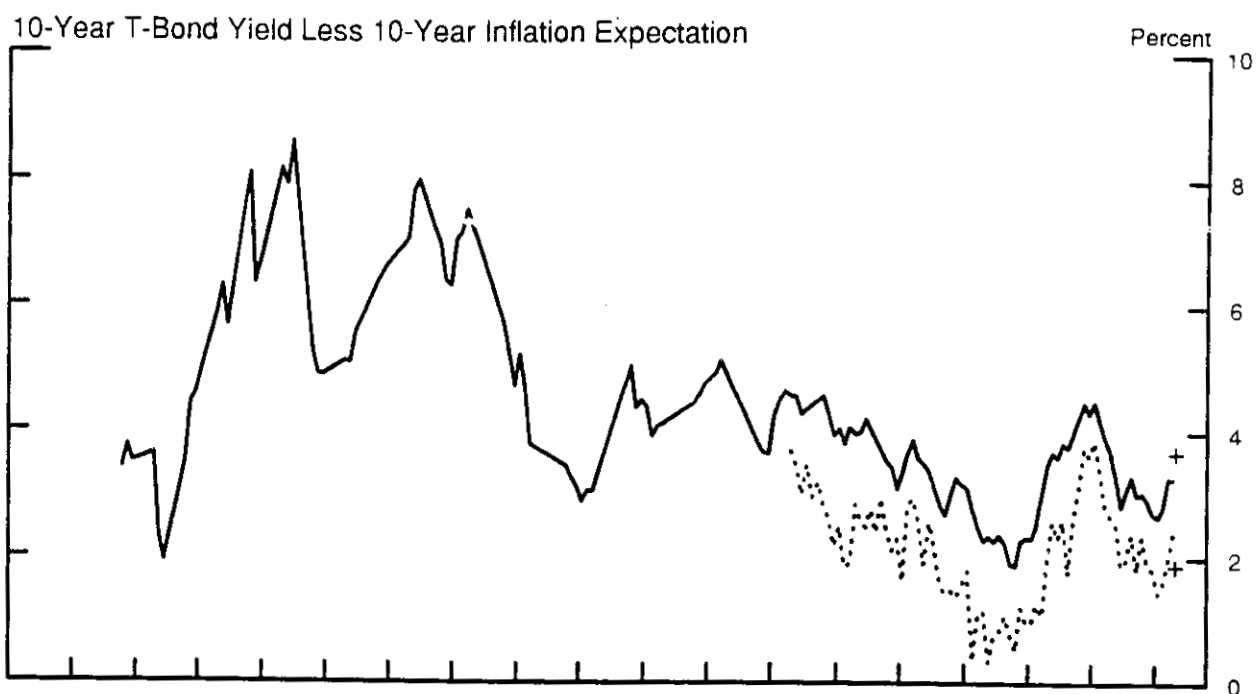
\*\* CPI defined to exclude food and energy.

Note: T-Bill is on a coupon-equivalent basis.

+ Denotes May 20, 1996 T-bill less most recent inflation expectation.

Chart 2

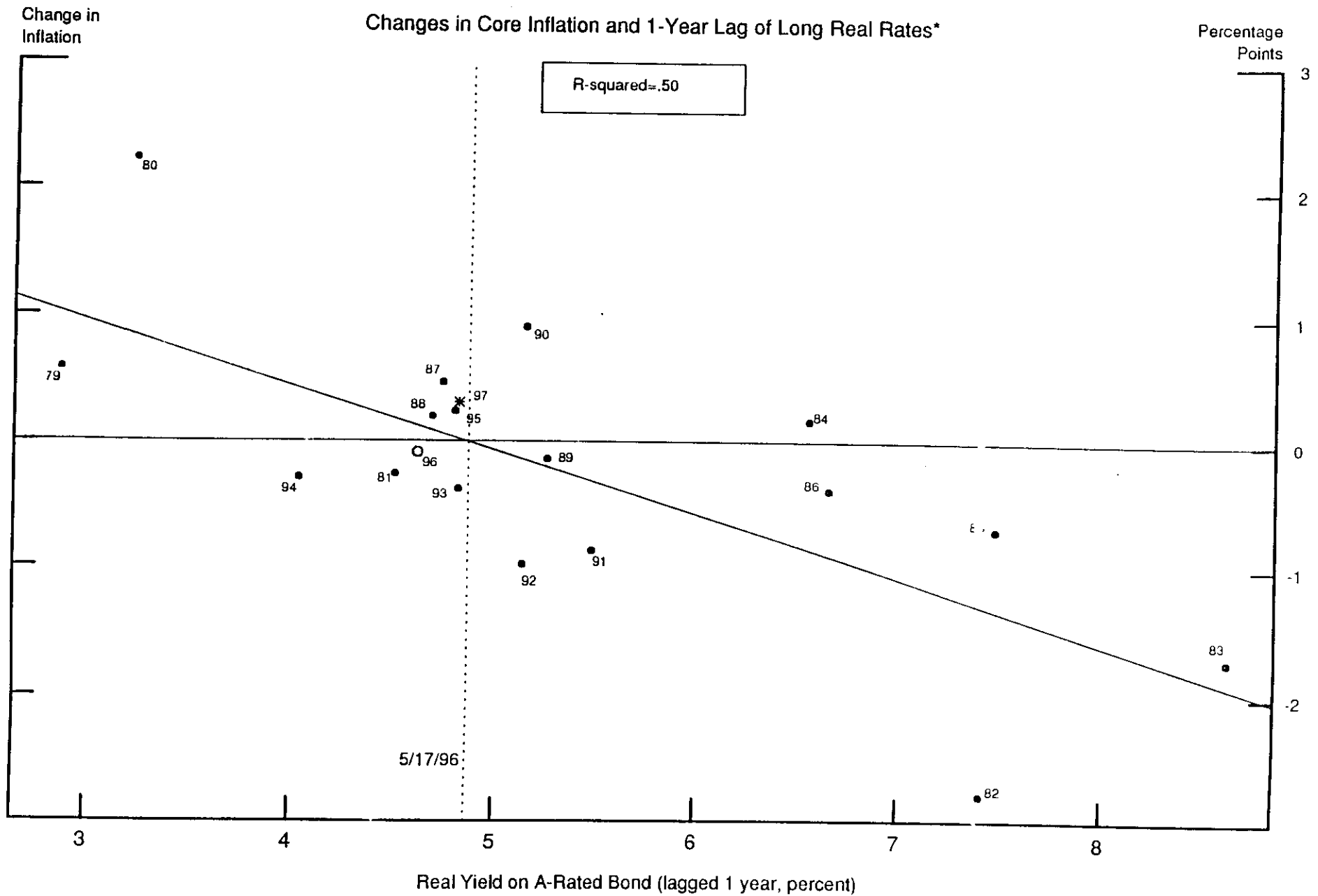
# Long-Term Real Interest Rates\*



\* For real rates, the solid line measures 10-year inflation expectations by the Blue Chip survey until April 1991 and the Philadelphia Federal Reserve Bank survey thereafter. Dotted line uses Michigan 5 to 10 year inflation expectation.  
 + Denotes May 20, 1996 value.

Chart 3

Changes in Core Inflation and 1-Year Lag of Long Real Rates\*



\*Long-run inflation expectations from the Hoey and Philadelphia Fed surveys, held constant at 3 percent after May 1996

Reflects May Greenbook forecast

Chart 4

# Stock Indices (Monthly)

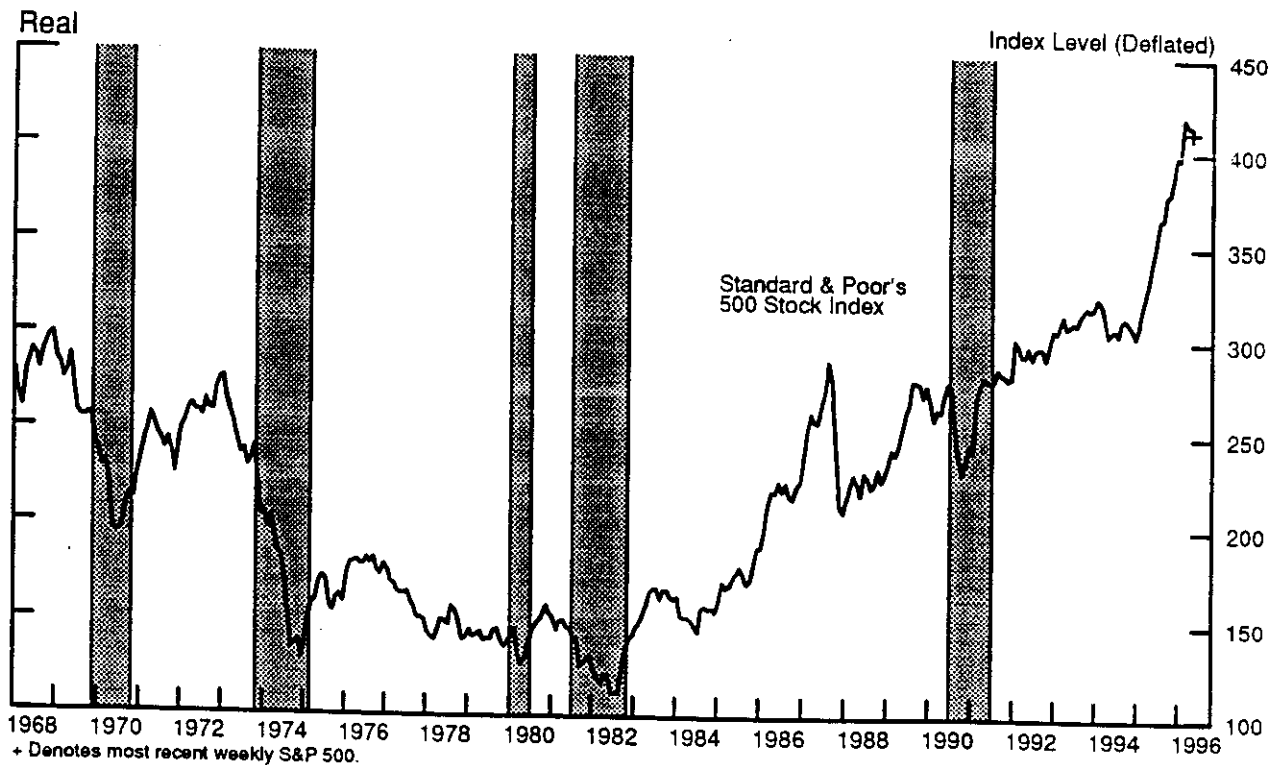
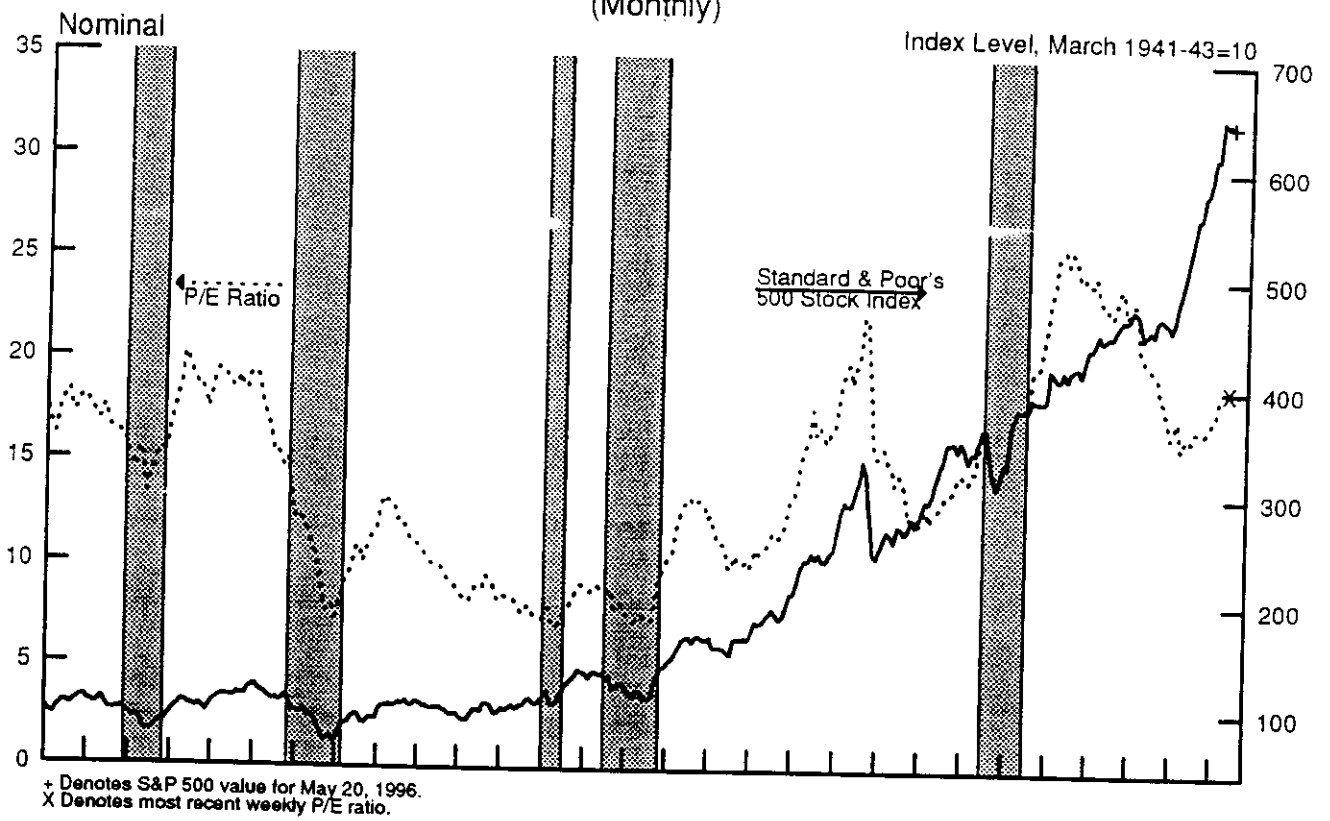
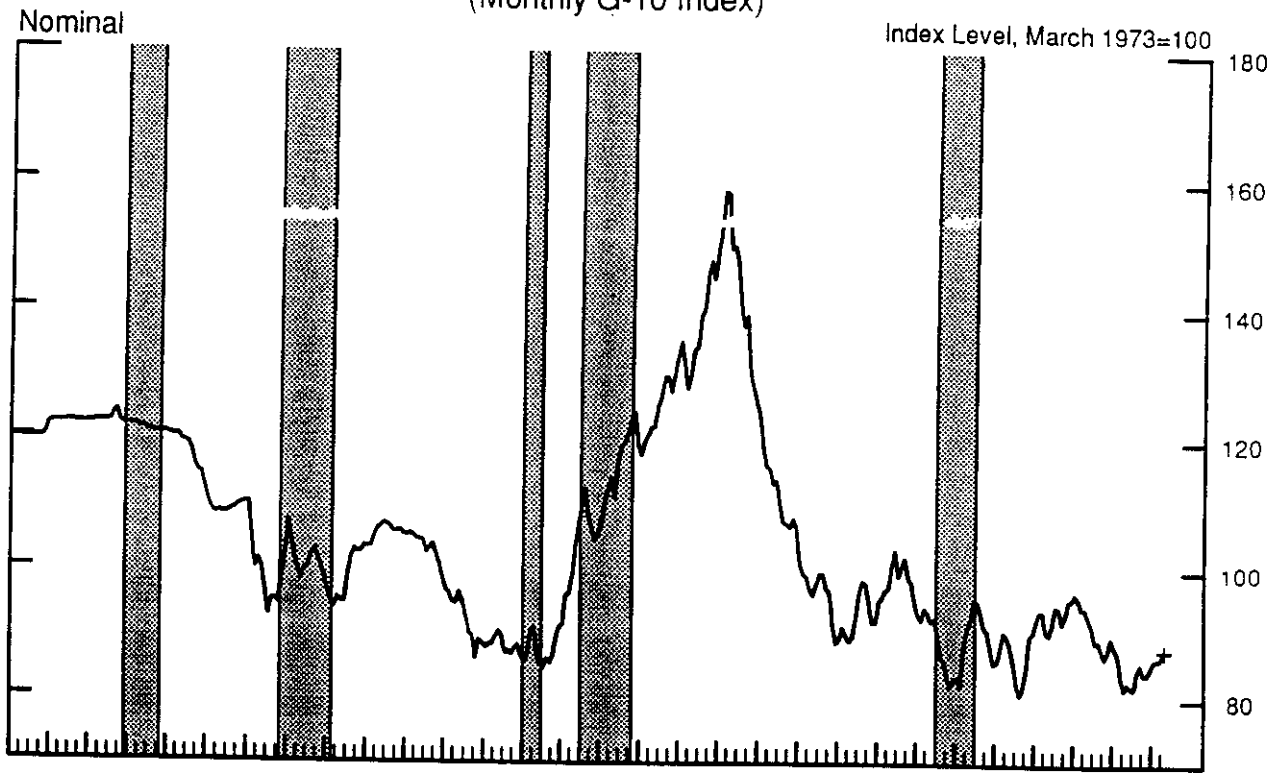


Chart 5

# The Exchange Value of The Dollar (Monthly G-10 Index)



+ Denotes May 20, 1996 value.

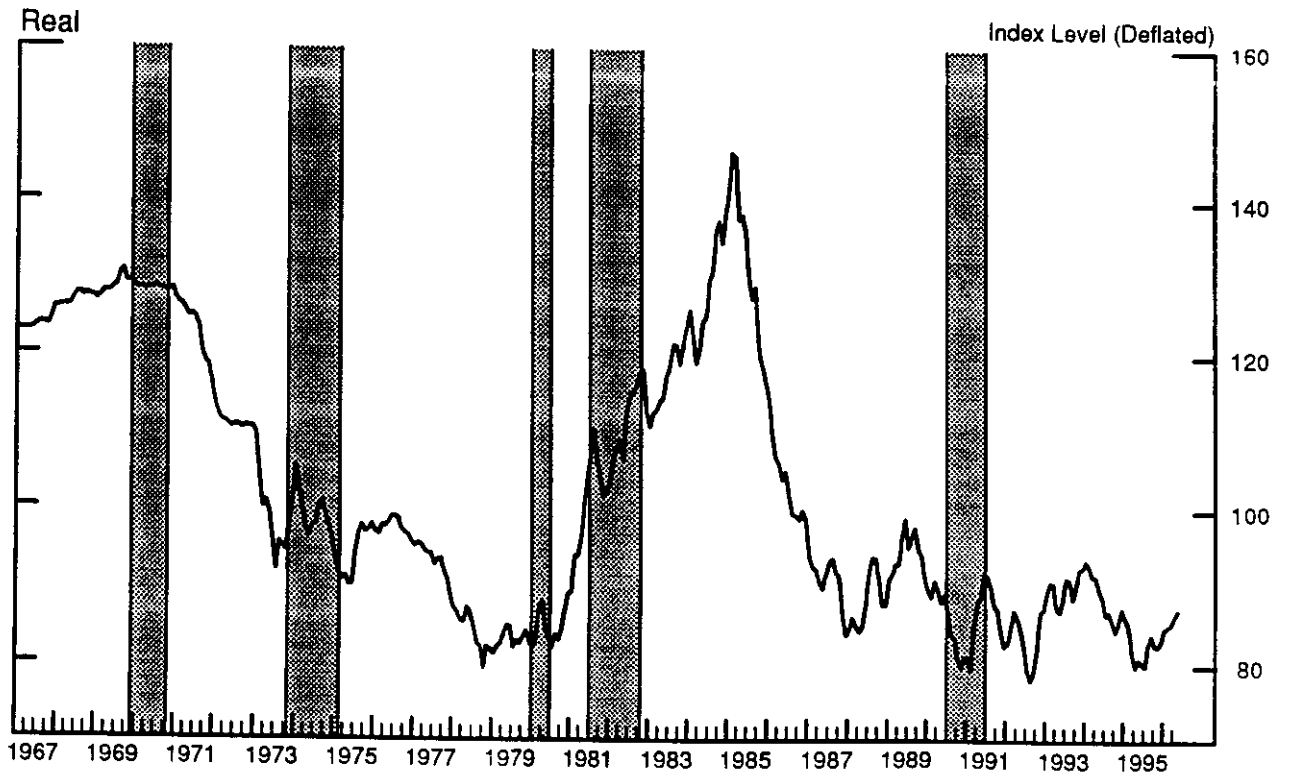
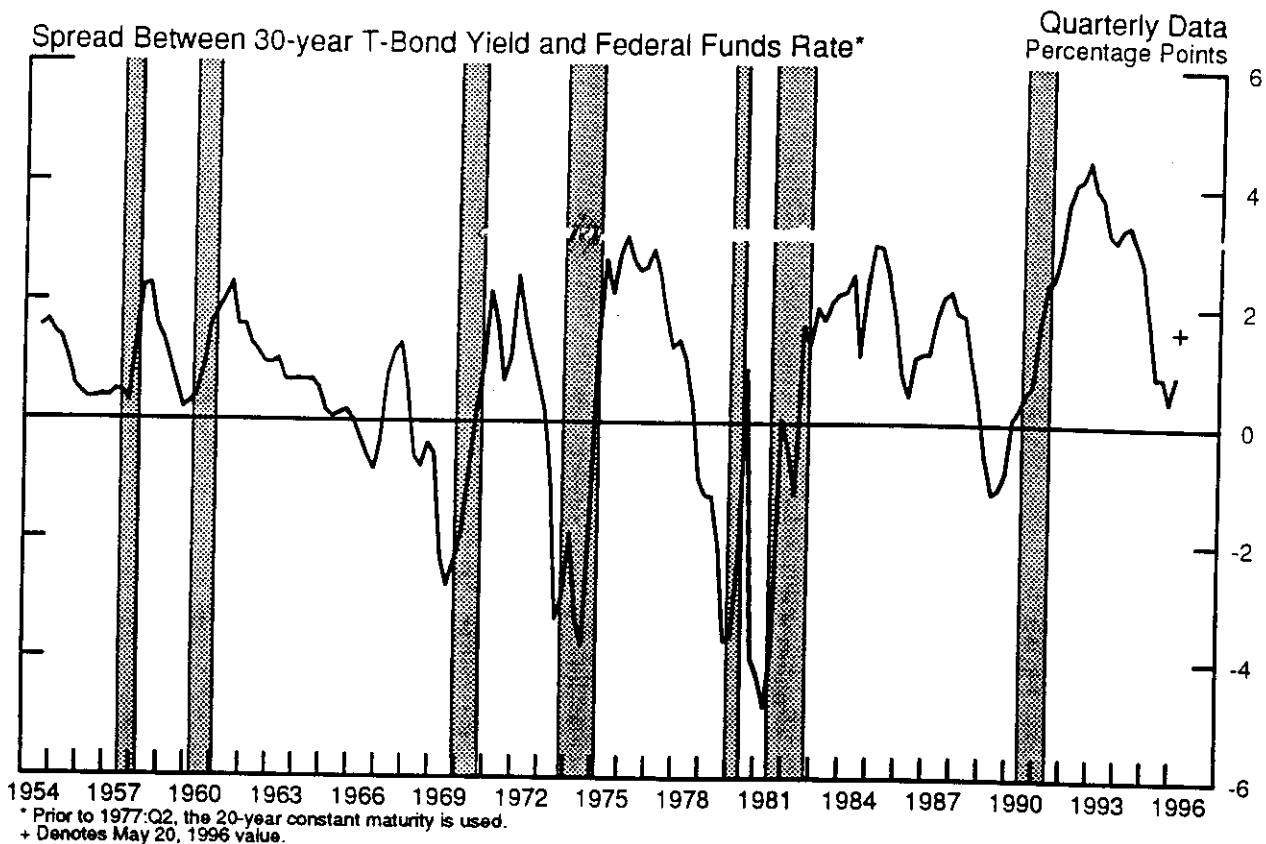




Chart 6

# The Yield Curve



## Selected Treasury Yield Curves

